



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/525,194

02/22/2005

Akihito Saitoh

03500.017517.

3939

5514

7590

04/10/2009

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/525,194 | Applicant(s) SAITOH ET AL. | |
| | Examiner Dawn Garrett | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 20, 2009 has been entered.
2. The amendment received February 20, 2009 has been entered. Claims 1-4 were amended. Claims 15 and 16 are cancelled. Claims 17-20 were added. Claims 1-14 and 17-20 are pending.
3. The previous objection to claims 1-4 is withdrawn due to the amendment.
4. The previous rejection of claims 1-14 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn upon consideration of applicant's remarks filed February 20, 2009.
5. The rejection of claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. WO 00/39247 or patent family equivalent Hosokawa et al. (US 6,743,948) is withdrawn due to the amendment.
6. The rejection of claims 5-12 under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. WO 00/39247 or patent family equivalent Hosokawa et al. (US 6,743,948) is withdrawn due to the amendment.

Art Unit: 1794

7. The rejection of claims 13 and 14 under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. WO 00/39247 or patent family equivalent Hosokawa et al. (US 6,743,948) is withdrawn due to the amendment.

Claim Objections

8. Claims 17-20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 17-20 comprise some compounds that are not encompassed by the structural formulas defined in the parent claims. Accordingly, these compounds of claims 17-20 fail to further limit the parent claim. For example, in claims 17 and 19 there are compounds where the X1 group is phenylene or substituted phenylene and that is not a possibility for X1 in current parent claims 1 and 3. Similarly, claims 18 and 20 recite compounds having phenylene or substituted phenylene as X3 and X4 and that is not a possibility for X3 or X4 in current parent claims 2 and 4. Applicant should verify that each compound recited in claims 17-20 is within the definition of the structural formula of the parent claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1794

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Baur et al.

(Proceedings of SPIE, (1998), Vol. 3472, pages 70-79; cited on previous references cited). Baur et al. discloses compounds according to Figure 1 and Table 1 which anticipate instant formula [1] (see page 71).

11. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Belfield et al., Chemistry of Materials, (2000), 12(5), 1184-1186. Belfield sets forth a compound according to scheme 2 (see page 1185) that anticipates instant formula 1 where Y1 and Y2 are bonded, n is one and X2 is a heterocyclic ring. The scheme 2 compound also anticipated instant formula 2 wherein X3, Y3 and Y4 are joined to form a ring (benzothiazole) and the perylene-derivative portion reads upon X4 as a heterocyclic ring, and the second benzothiazole group reads upon instant X5 as a heterocyclic ring.

12. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (JP 07-043920 A). Tanaka discloses compounds according to instant formula 1 (see entire document). In particular see compounds T-9 and T-11 (page 15), T-14 (page 16), T-24 (page 19), T-28 (page 20), T-33 (page 22), T-35 (page 23), T-39 (page 24), T-48 (page 27), T-51 (page 28), and T-53 (page 29).

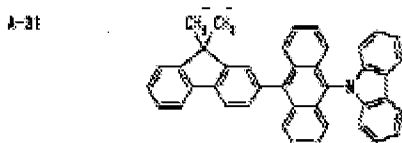
13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi (JP 2001-66809 A). Kikuchi discloses compounds according to instant formula 1 (see entire document). In particular see page 14 (#134, 150) and page 15, (#156).

Art Unit: 1794

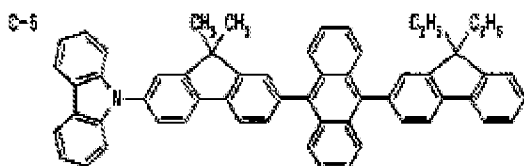
14. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by Ishida et al. (JP 2003-128651).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Ishida et al. discloses compounds according to general formulas (see page 2 and see also paragraphs showing general formulas up to par. 81) that are within the instant formula 1 and 2 definitions (see exemplified compounds set forth on pages 16-76) such as A-31:



and such as C-6:



The compounds are used as an organic layer such as the luminous layer of a device (see par. 235-236) per claims 3 and 4.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1794

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (JP 2003-128651) in view of Xie et al. (US 5,989,737). Ishida et al. is relied upon as stated above for the teaching of compounds according to formulas 1 and 2 in an EL device. Ishida et al. is silent with respect to teaching further compounds according to the formula shown in claims 11 and 12 in a layer with the inventive compounds, but does teach the inventive compounds may be used with hole injection transport functional materials (see par. 224-227). Xie teaches, in analogous art, EL devices comprising a hole injecting and transporting layer comprising a mixture of hole transporting amine compounds and polycyclic aromatic hydrocarbon compounds (see col. 4, lines 31-33). Spiro compound 11 reads upon formula 6 of claims 11 and 12 (see col. 11). It would have been obvious to have formed a layer for an EL device comprising a mixture of a compound according to Ishida mixed with polycyclic hydrocarbon compounds, because one would expect the benefits of improved device stability without degradation of charge injection and transport efficiencies as taught by Xie (see Xie col. 3, lines 5-17).

17. Claims 5-10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. JP 2003-128651. Ishida et al. is relied upon as stated above for the teaching of compounds according to formulas 1 and 2 in an EL device for claims 3 and 4. Ishida et al. is silent with respect to teaching further including compounds according to the formulas shown in claims 5-10, 13 and 14 in a layer with the compounds according to instant formulas 1 and 2. Compounds such as D1 to D5 taught by Ishida et al., which are also according to the general formulas taught by Ishida et al., read upon instant formulas 3, 4, 5 and 7 of instant claims 5-10,

Art Unit: 1794

13 and 14. It would have been obvious to have formed a layer for an EL device comprising a mixture of compounds according to the general formulas of Ishida (i.e., A-31 mixed with D-1), because absent evidence otherwise, “[i]t is *prima facie* obvious to combine two compositions taught by the prior art as useful for the same purpose, in order to form a third composition which is to be used for the very same purpose” (see *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980); *In re Susi*, 169 USPQ 423, 426 (CCPA 1971); *In re Crockett*, 126 USPQ 186, 188 (CCPA 1960)). Furthermore, applicant claims a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). *Ex Parte Smith*, 83 USPQ2d at 1518-19 (BPAI, 2007) (citing *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396).

Response to Arguments

18. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday-Friday.

Art Unit: 1794

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/
Primary Examiner, Art Unit 1794

April 8, 2009